



## General

### Guideline Title

Best evidence statement (BEST). Sleep promotion in children with mental health diagnoses.

### Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BEST). Sleep promotion in children with mental health diagnoses. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2012 May 10. 6 p. [10 references]

### Guideline Status

This is the current release of the guideline.

## Recommendations

### Major Recommendations

The strength of the recommendation (strongly recommended, recommended, or no recommendation) and the quality of the evidence (1a to 5b) are defined at the end of the "Major Recommendations" field.

1. It is recommended that for children with sleep onset latency, improving sleep hygiene and progressive relaxation may decrease sleep onset latency (Lacks et al., 1983 [2b]; Borkevec et al., 1979 [2b]).  
Note: Sleep hygiene would include regular bedtime and waking routines, association of bedroom with sleep, monitoring nighttime activities to promote sleep and limiting napping.
2. It is recommended that children aged 6-12 who are diagnosed with attention deficit hyperactivity disorder and children with developmental disorders benefit from the use of melatonin to improve sleep efficacy and sleep duration and to decrease sleep onset latency (Van Der Heijden et al., 2007 [2a]; Hoeber et al., 2009 [4a]; Dodge & Wilson, 2001 [2b]; Armour & Paton, 2004 [5a]).

#### Definitions:

#### Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain

Quality Level	Definition
5	Local consensus

†a = good quality study; b = lesser quality study

#### Table of Recommendation Strength

Strength	Definition
It is strongly recommended that... It is strongly recommended that...not...	There is consensus that benefits clearly outweigh risks and burdens ( <i>or vice versa for negative recommendations</i> ).
It is recommended that... It is recommended that...not...	There is consensus that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation...	

See the original guideline document for the dimensions used for judging the strength of the recommendation.

## Clinical Algorithm(s)

None provided

## Scope

## Disease/Condition(s)

Mental health diagnoses, including attention deficit disorders, autism spectrum disorders or developmental delays receiving inpatient psychiatric mental health and/or behavioral care

## Guideline Category

Assessment of Therapeutic Effectiveness

Management

Treatment

## Clinical Specialty

Family Practice

Internal Medicine

Pediatrics

Sleep Medicine

## Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

## Guideline Objective(s)

To evaluate, among children with mental health diagnoses, if self-regulation techniques compared to as needed (PRN) sleep medications affects sleep quality at night during an inpatient hospital stay

## Target Population

Children aged 3-18 years old with mental health diagnoses, including attention deficit disorders, autism spectrum disorders or developmental delays receiving inpatient psychiatric mental health and/or behavioral care

## Interventions and Practices Considered

1. Self-regulation techniques that promote sleep hygiene and progressive relaxation
2. Melatonin

## Major Outcomes Considered

- Sleep onset latency
- Sleep duration
- Number of night time awakenings

## Methodology

### Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

Search Strategy

Search terms included: sleep, relaxation, progressive muscular relaxation, mediation, calming techniques, breathing techniques, self-awareness, self-regulation, cranial-sacral massage, neuroaffective, melatonin, sleep aids, Benadryl, child, and psychiatry.

The databases searched include: MEDLINE, CINAHL, PsycINFO, Cochrane Database of Systematic Reviews, PubMed. The search was limited to articles that were printed in English, all dates inclusive through December 2010. A question was submitted to National Association of Children's Hospitals and Related Institutions, now known as Child Health Association, with no responses.

### Number of Source Documents

Not stated

### Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local consensus

†a = good quality study; b = lesser quality study

## Methods Used to Analyze the Evidence

Systematic Review

## Description of the Methods Used to Analyze the Evidence

Not stated

## Methods Used to Formulate the Recommendations

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

Not stated

## Rating Scheme for the Strength of the Recommendations

Table of Recommendation Strength

Strength	Definition
It is strongly recommended that... It is strongly recommended that... not...	There is consensus that benefits clearly outweigh risks and burdens ( <i>or vice versa for negative recommendations</i> ).
It is recommended that... It is recommended that...not...	There is consensus that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation...	

See the original guideline document for the dimensions used for judging the strength of the recommendation.

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

# Method of Guideline Validation

Peer Review

## Description of Method of Guideline Validation

This Best Evidence Statement has been reviewed against quality criteria by 2 independent reviewers from the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence Collaboration.

## Evidence Supporting the Recommendations

### References Supporting the Recommendations

Armour D, Paton C. Melatonin in the treatment of insomnia in children and adolescents. *Psychiatr Bull.* 2004;28(6):222-4.

Borkovec TD, Grayson JB, O'Brien GT, Weerts TC. Relaxation treatment of pseudoinsomnia and idiopathic insomnia: an electroencephalographic evaluation. *J Appl Behav Anal.* 1979 Spring;12(1):37-54. [PubMed](#)

Dodge NN, Wilson GA. Melatonin for treatment of sleep disorders in children with developmental disabilities. *J Child Neurol.* 2001 Aug;16(8):581-4. [PubMed](#)

Hoebert M, van der Heijden KB, van Geijlswijk IM, Smits MG. Long-term follow-up of melatonin treatment in children with ADHD and chronic sleep onset insomnia. *J Pineal Res.* 2009 Aug;47(1):1-7. [PubMed](#)

Lacks P, Bertelson AD, Gans L, Kunkel J. The effectiveness of three behavioral treatments for different degrees of sleep onset insomnia. *Behav Ther.* 1983;14(5):593-605.

Van der Heijden KB, Smits MG, Van Someren EJ, Ridderinkhof KR, Gunning WB. Effect of melatonin on sleep, behavior, and cognition in ADHD and chronic sleep-onset insomnia. *J Am Acad Child Adolesc Psychiatry.* 2007 Feb;46(2):233-41. [PubMed](#)

### Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Improved sleep quality at night including decreased sleep onset latency, increased sleep duration and decreased number of night time awakenings

### Potential Harms

Melatonin has rare possible side effects such as headache, increased seizure activity, increased asthma symptoms and a potential adverse effect on puberty development

# Qualifying Statements

## Qualifying Statements

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

## Implementation of the Guideline

### Description of Implementation Strategy

An implementation strategy was not provided.

### Implementation Tools

Audit Criteria/Indicators

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Getting Better

Living with Illness

### IOM Domain

Effectiveness

## Identifying Information and Availability

### Bibliographic Source(s)

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### Adaptation

Not applicable: The guideline was not adapted from another source.

## Date Released

2012 May 10

## Guideline Developer(s)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

## Source(s) of Funding

Cincinnati Children's Hospital Medical Center

## Guideline Committee

Not stated

## Composition of Group That Authored the Guideline

*Team Leader/Author:* Aurealassa Williams, RN, BSN, LMT, VCSW, Division of Psychiatry

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## Financial Disclosures/Conflicts of Interest

No financial conflicts of interest were found.

## Guideline Status

This is the current release of the guideline.

## Guideline Availability

Electronic copies: Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at [EBDMInfo@cchmc.org](mailto:EBDMInfo@cchmc.org).

## Availability of Companion Documents

The following are available:

- Judging the strength of a recommendation. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Jan. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .
- Grading a body of evidence to answer a clinical question. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

- Table of evidence levels. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Feb 29. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at [EBDMInfo@cchmc.org](mailto:EBDMInfo@cchmc.org).

In addition, suggested process or outcome measures are available in the [original guideline document](#) .

## Patient Resources

None available

## NGC Status

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